

Claims

What is claimed is:

1. A scan engine for use in a data collection device, comprising:
a housing with an opening for receiving light from a scanned dataform;
an image sensor with an aperture, the image sensor being located within the housing and operative to sense light entering the aperture; and
a prism located within the housing and adapted to receive light from the opening along a first path and to provide at least a portion of the received light to the aperture along a second path.
2. The scan engine of claim 1, wherein the second path is at an angle with respect to the first path.
3. The scan engine of claim 2, wherein the second path is perpendicular to the first path.
4. The scan engine of claim 3, wherein the prism comprises a first planar face generally perpendicular to the first path and a second planar face generally perpendicular to the second path, and wherein the second face is mounted on the aperture.
5. The scan engine of claim 4, wherein the first face of the prism is located proximate the opening in the housing.
6. The scan engine of claim 5, wherein the opening is located in a first wall of the housing, and wherein the first face of the prism is further adapted to cover the opening.
7. The scan engine of claim 6, wherein the first face of the prism provides a

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seal around the opening of the first enclosure wall.

8. The scan engine of claim 1, wherein the prism comprises a first planar face generally perpendicular to the first path and a second planar face generally perpendicular to the second path, and wherein the second face is mounted on the aperture.

9. The scan engine of claim 8, wherein the first face of the prism is located proximate the opening in the housing.

10. The scan engine of claim 9, wherein the opening is located in a first wall of the housing, and wherein the first face of the prism is further adapted to cover the opening.

11. The scan engine of claim 10, wherein the first face of the prism provides a seal around the opening of the first enclosure wall.

12. The scan engine of claim 1, wherein the prism comprises a first face generally perpendicular to the first path and a second planar face generally perpendicular to the second path, and wherein the second face is mounted on the aperture.

13. The scan engine of claim 12, wherein the first face of the prism has a spherical convex shape, whereby the first face serves as an imaging lens with respect to the received light.

14. The scan engine of claim 1, further comprising a lens mounted within the housing along the first path.

15. The scan engine of claim 1, further comprising a lens mounted on the housing along the first path.

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16. The scan engine of claim 15 wherein the lens is detachable from the housing.

17. A method for producing a data collection device scan engine, comprising:
providing a housing with an opening for receiving light from a scanned dataform;
mounting an image sensor within the housing, the image sensor having an aperture and being operative to sense light entering the aperture; and
mounting a prism within the housing for receiving light from the opening along a first path and providing at least a portion of the received light to the aperture along a second path.

18. The method of claim 17, wherein the prism comprises a first planar face generally perpendicular to the first path and a second planar face generally perpendicular to the second path, further comprising mounting the second face on the aperture.

19. The method of claim 18, wherein mounting the second face on the aperture includes adhering at least a portion of the second face of the prism to the aperture using a transparent low loss adhesive.

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20. The method of claim 18, wherein the opening is located in a first wall of the housing, and wherein mounting the prism within the housing further comprises locating the first face of the prism so as to cover the opening.

21. The method of claim 20, further comprising providing a seal around the opening of the first enclosure wall using the first face of the prism.

22. A data collection device scan engine image sensor assembly, comprising:
an image sensor having an aperture and being operative to sense light entering the aperture, and

a prism mounted on the aperture and adapted to receive light along a first path and to provide at least a portion of the received light to the aperture along a second path.

23. The assembly of claim 22, wherein the prism comprises a first planar face generally perpendicular to the first path and a second planar face generally perpendicular to the second path, wherein the first planar face is further adapted to cover an opening in a scan engine housing.

24. The assembly of claim 23, wherein the first face of the prism is further adapted to provide a seal around the opening of the scan engine housing.

25. The assembly of claim 22, wherein the prism comprises a first planar face adapted to receive light along the first path, and a second planar face adhered to the aperture using a low loss transparent adhesive.